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ABSTRACT

This study compared the experiences of first-year students in different disciplines at York University (Ontario). Surveys of 336 students in the faculty of pure and applied science, 802 students in the faculty of arts, and 793 students in Atkinson College, the evening college of the university, were conducted during February-March of the first year. The response rates were 68 percent, 70 percent, and approximately 50 percent, respectively. The results indicated that while science students had relatively low levels of contact with faculty, they were more academically and socially involved in the university than arts and Atkinson students. However, arts and Atkinson students were more likely than science students to report that their knowledge over the first year of university had increased. In general, students readily identified shortcomings in their academic backgrounds that made the transition to the university difficult. Moreover, the majority endorsed the establishment of a credit course that would assist them in dealing with the academic and social problems associated with the first-year experience. (MDM)

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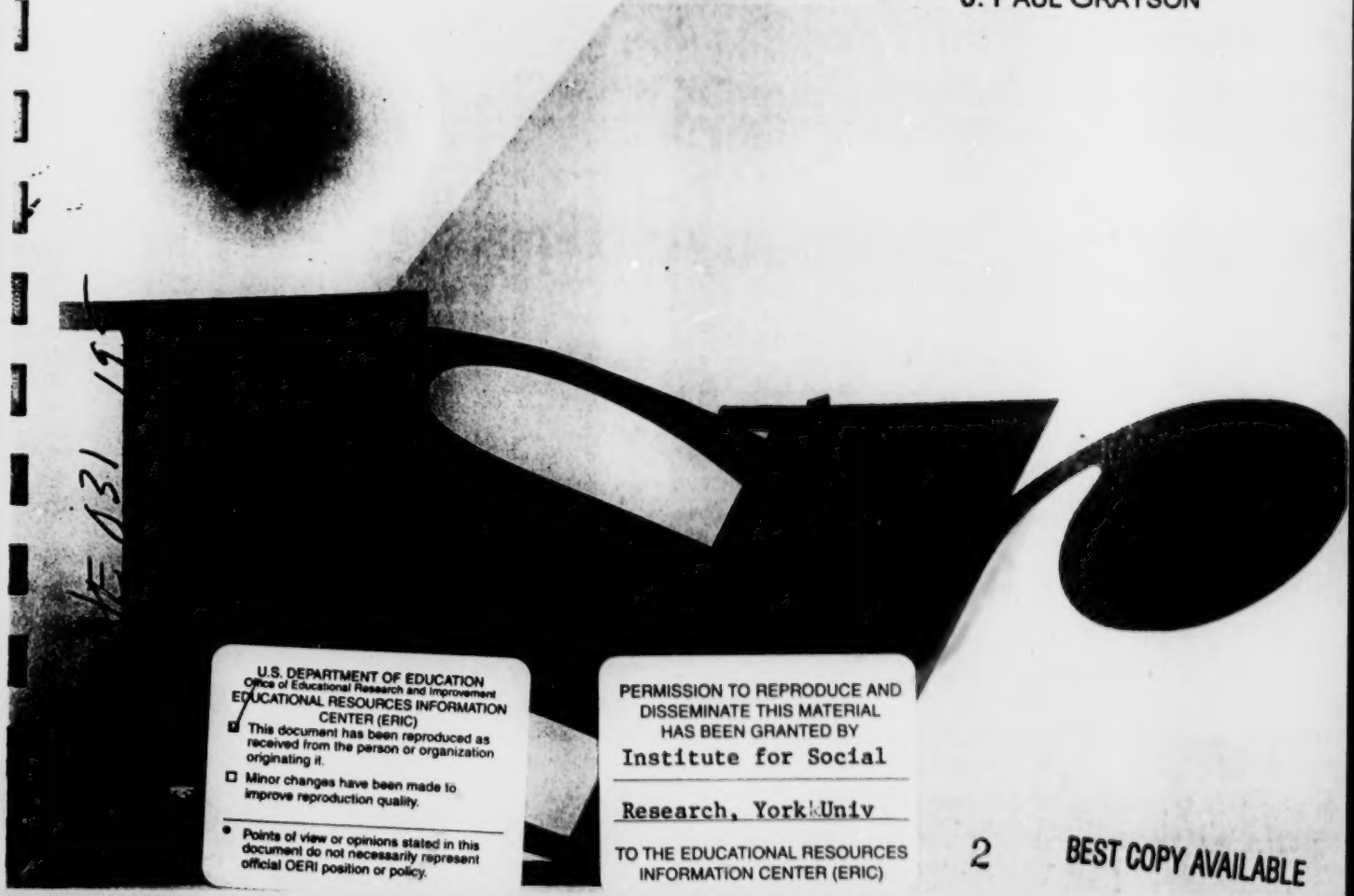
INSTITUTE FOR SOCIAL RESEARCH

COMPARATIVE FIRST YEAR EXPERIENCES AT YORK UNIVERSITY: SCIENCE, ARTS, AND ATKINSON

J. PAUL GRAYSON



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Comparative First Year Experiences At York University: Science, Arts, and Atkinson

J. Paul Grayson

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The following is a report of general interest to non-specialist readers.

Acknowledgements

A number of individuals at the ISR contributed to various phases of the research on which the following report is based. In no particular order I would like to thank: Darla Rhyne, Mike Ornstein, David Northrup, John Tibert, Greg Hanson, and Anne Oram. I would also like to thank Bill Bruce for his assistance with name generation and Linda Grayson for helpful comments made on an early draft of the report.

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Summary

Research has established a strong link between positive first year experiences and desirable outcomes such as increases in knowledge and intellectual development, retention, and marks. Important first year experiences that contribute to desired outcomes include extensive out-of-class student contact with representatives of the university, particularly faculty; academic and social involvement; and positive classroom experiences. In commuter universities such as York it can be expected that out-of-class contacts with faculty, and academic and social involvement, will be lower than in residential universities. As a result, special efforts must be taken to compensate for the absence of such processes.

In the current report comparisons are made of the first year experiences of students enrolled in the Faculty of Pure and Applied Science, the Faculty of Arts, and Atkinson College at York University. Data for the study were collected in surveys conducted in February and March of the first year.

Data indicate that there is considerable variation in the experiences of students in first year. For example, Science students have relatively low contact with faculty etc. but are more academically and socially involved than Arts and Atkinson students. Moreover, first year outcomes differ. By way of illustration, Arts and Atkinson students are more likely than Science students to say that their knowledge over the first year of university has increased. Unfortunately, while comparisons can be made of the experiences and outcomes of students in the faculties/college under discussion, data do not permit an assessment of the degree to which the first year experience is as rewarding as can be expected in a commuter university.

In general, students readily identified shortcomings in their academic backgrounds that made the transition to first year difficult. Moreover, the majority endorse the establishment of a credit course that would assist them in dealing with the academic and social problems associated with the first year experience. To the extent that such a course could provide students with specific required skills, increase contact with faculty, and enhance academic and social involvement, it could contribute to overcoming some of the inherent first year problems of students in a commuter university.

Introduction

A considerable body of research has established that the first year experiences of students in universities have important implications for outcomes such as retention, intellectual development, and grades. Of particular importance in first year and beyond are the amount of out-of-class student-faculty contact and the types of academic and social links established with, and within, the institution. In essence, while the importance of each varies from study to study, students who have a high degree of faculty contact and who are academically and socially involved tend to do better in a number of relevant realms than students with little faculty contact and who are not involved (Pascarella and Terenzini, 1991).

Obviously, residential institutions provide the maximal possibilities for faculty contact and academic and social integration. By way of comparison, in commuter institutions, such as York, in which only 10% of first year students live on campus, integration may be less complete. As a result, outside of the classroom, there are few, if any, academic and social forces that might contribute to desirable outcomes (Grayson, 1994a; 1994b). By way of comparison, in institutions in which a large number of first year students live in residence, such as Queen's (90% of first year students live in residence), academic and social involvement may contribute more to particular outcomes.

While universities may differ in terms of the amount of faculty contact, academic and social integration of students, and the provision of rewarding classroom experiences, within any university differences may exist between and among faculties and colleges. As a general proposition it can be assumed that faculty, college, and departmental policies and practices that maximize out-of-class student-faculty contact and maximize academic and social involvement are likely to contribute to the realization of desired outcomes (Astin, 1993). In addition, particularly in commuter universities, the provision of rewarding classroom experiences must be added to this list.

It is obvious that the inability of universities to provide residential accommodation to their students does not necessarily represent institutional failure. For example, at York, where a substantial percentage of first year students come from families with relatively low family incomes, it is highly unlikely that on-campus residence is economically feasible for all but a minority. As a result, York and similar commuter institutions must devise ways to either maximize student-faculty contact and academic and social integration or devise substitutes for these important processes. The first step in this endeavour is to gain a firm understanding of the first year experience. As a result, the focus of this report will be on a comparison of the first year experience in the Faculty of Pure and Applied Sciences, the Faculty of Arts, and Atkinson College at York University.

Data analyzed in the report will be of three kinds. First, attention will focus on the extent to which individuals considered themselves prepared for first year in terms of academic and emotional readiness, work habits and study skills, and drive. Problems encountered with regard

to making friends, family interference, stress, getting good grades, and money will also be examined.

Second, attention will shift to factors that in other analyses (Grayson, 1994a; 1994b) have been found to affect first year outcomes at York such as increases in intellectual development and knowledge, retention, and grades. Factors of potential importance in this regard are out-of-class contacts with faculty, teaching assistants and lab demonstrators, and staff; academic involvement (hours per week on studies, attendance at lectures and tutorials/labs, current number of courses, hours per week on campus, and participation in non-required academic activities); social involvement (number of new friends, time spent with new friends, number of pub visits, number of sports activities watched, number of sports engaged in, and club and organization memberships); and classroom experiences (satisfaction with instruction, being exposed to career relevant topics, and exposure to varying perspectives in classes).

Third, data will be presented on evaluations of the first year experience (satisfaction with: overall programs, grades, instruction, class size, course content, staff contact, teaching assistant and lab demonstrator contact, faculty contact, and student services).

Data Sources

The current study is based on surveys carried out of students at the *end of first year* (February/March) in the Faculty of Pure and Applied Science (1993), Arts (1994), and Atkinson College (1994), the evening operation of York University. The respective sample sizes for each are 336, 802, and 793. Response rates are 68%, 70%, and approximately 50%. Rates of this magnitude are good for the student groups under consideration. Similar surveys of entering students' expectations were carried out for each of the above faculties/colleges in September 1992 (Science) and August 1993 (Arts and Atkinson).[1]

In the graphs in which the results of the end-of-year surveys are presented, a distinction has been made between students for whom Atkinson was their first contact with post-secondary education (90 cases) and Atkinson students with prior, but not necessarily credited, exposure to college or university (637 cases).[2] This procedure was followed as in terms of potential problems of transition to the university, the former are more similar than the latter to students in Science and Arts. Indeed, as the focus of this report is on problems of transition, Atkinson students with former exposure to post-secondary education are of secondary concern.

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[1] See Grayson (1993).

[2] The number in administrative records may be lower than this if only completed courses etc. are recorded.

First Year Preparation and Problems

Preparation

Academic Preparation

The extent to which students were prepared for first year is summarized in Graph 1. (In this and following graphs, unless otherwise stated, differences among faculties/colleges can be treated as statistically significant.) In terms of academic preparation, Atkinson students with education less than or equal to high school (for convenience, 'Atkinson transitional' for the remainder of this report; 'Atkinson LE High School' in graphs), less than any other group, 39%, felt that they had been prepared for university. The group that felt the most confident with regard to academic preparation was Atkinson students, 64%, with prior post-secondary exposure ('advanced Atkinson' in the report and 'Atkinson GT High School' in graphs). These figures suggest that students admitted to Atkinson have a wide range of academic preparedness for first year and that perhaps programs should recognize that transitional Atkinson students may be at an initial disadvantage when compared to their classmates.

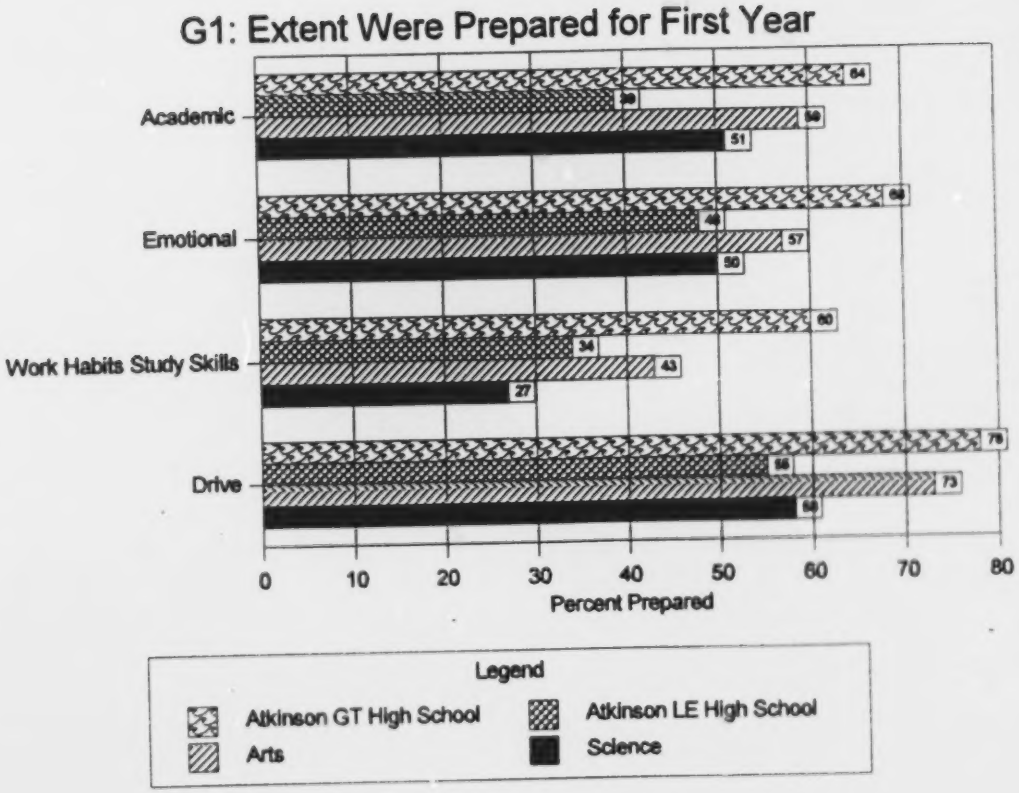
Graph data also show that 59% of Arts, and 51% of Science students also felt that they had been prepared academically for university. Figures such as these suggest that while differences between Arts and Science students are not very large, a substantial portion of students admitted to each faculty considered that they were not ready for university. This finding may suggest a re-thinking of the nature of first year offerings to ensure students are brought up to a common standard.

Emotional Preparation

Graph data indicate that 57% of Arts, and 50% of Science students believed that they had been emotionally prepared for university. Least prepared in this regard are Atkinson transitional students, only 48% of whom were prepared. By way of comparison, 68% of advanced Atkinson students stated that they had been emotionally prepared for first year.

Work Habits and Study Skills

The poorest showing in terms of being prepared for first year falls in the area of work habits and study skills. Only 27% of Science, and 43% of Arts students felt that they had been ready in this regard. While only 34% of Atkinson transitional had been prepared, 60% of advanced Atkinson students were ready for first year in terms of work habits and study skills. This readiness no doubt reflects the fact that such individuals had previous exposure to post-secondary education and knew what to expect. In general, however, the evidence indicates that more attention might be paid to developing students' work habits and study skills.


G1: Extent Were Prepared for First Year
Academic
Emotional
Work Habits Study Skills
Drive
64
39
59
51
68
48
57
50
60
34
43
27
78
66
73
68
0
10
20
30
40
50
60
70
80
Percent Prepared
Legend
Atkinson GT High School
Atkinson LE High School
Arts
Science

Drive to Succeed

It is clear that Arts and advanced Atkinson students more than other students believed that they had sufficient drive to succeed in university. Whereas 73% of students in Arts, and 78% of advanced Atkinson students stated that they had enough drive, only 55% of Atkinson transitional students and 58% of Science students made similar claims.

Overall

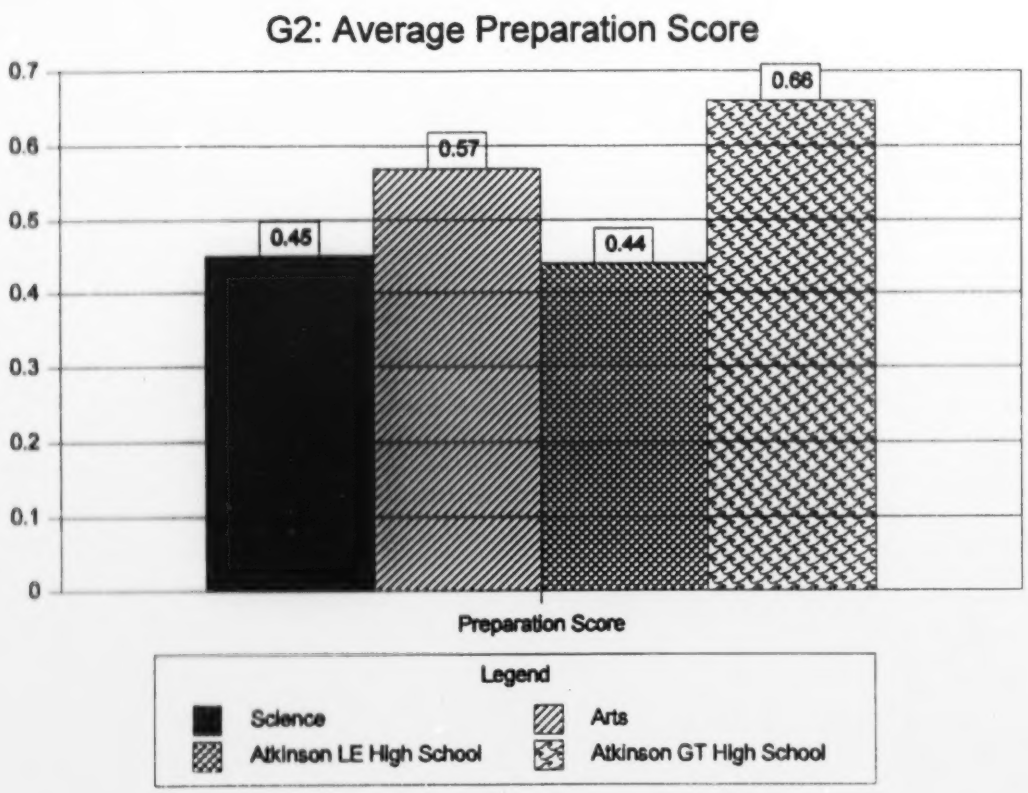
There are two overall observations that derive from the data in Graph 1. First, there are considerable differences among faculties/colleges regarding the degree of student preparation for university. Second, with the possible exception of advanced Atkinson students, overall levels of preparation on some crucial dimensions are low. These findings may have implications for the nature of first year programs and types of support systems that are made available.

In order to obtain a crude overview of the information in Graph 2 students were given a score of 1 for each of the four areas in which they believed that they had been prepared. Scores for all four items were averaged. For example, if a student was prepared in all four areas, he/she would receive a score of 1 ((1+1+1+1)/4). Being prepared in only one area would result in a score of .25 ((0+0+0+1)/4).

While this measure provides an overview, it should not be used in lieu of more detailed data presented in Graph 1. Most importantly, for the overview, all four items are treated as being of equal value. This may or may not be a reasonable assumption. The same caveat applies to similar overviews that will be given in later sections.

Limitations aside, the data in Graph 2 indicate that more advanced Atkinson students than others felt that they had been most prepared academically for their first year at Atkinson. Given that many already have university or college degrees this is an expected finding. Among the other three groups, the vast majority of whom have had no post-secondary experience, it is evident that students from Arts felt that they had been the most prepared for university. Science and transitional Atkinson students expressed similar lower levels of preparation.

As a final note to this section a few comments can be made on how students assessed their preparation for university as measured in surveys conducted at the beginning of first year (Grayson, 1993) compared to their evaluations at the end of the year as in Graph 2. In brief, in September, Science students felt the least prepared for their upcoming studies while advanced Atkinson students felt the most prepared. At year's end, this high-low placement had not changed. What had changed was that in September slightly more transitional Atkinson than Arts students had felt prepared for university. By the end of first year more Arts than transitional Atkinson students felt that they had been ready for their first year of studies. In essence, transitional Atkinson students may have been somewhat over-confident at the beginning of first year.



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Problems

MAKING FRIENDS

In view of the importance of social integration, it is crucial that first year students establish contacts with their peers. Overall, the data in Graph 3 indicate that problems in this area are encountered by only a few students. Nonetheless, students in Arts, 20%, experienced considerably more difficulty than students in Science, 10%, in this regard. The relatively high figure for Arts may be a reflection of the size and potential anonymity of the Arts program. Thirteen percent of Atkinson transitional students and 12% of other students entering Atkinson also had difficulties in making friends.

FAMILY INTERFERE STUDIES

Family interference with studies affected a large minority of students in all faculties/colleges. Moreover, this is one of the few dimensions along which differences are not statistically significant. It is likely, however, that for Arts and Science students interference derives from parents while for Atkinson students, children and spouses are more likely sources of difficulty.

STRESS

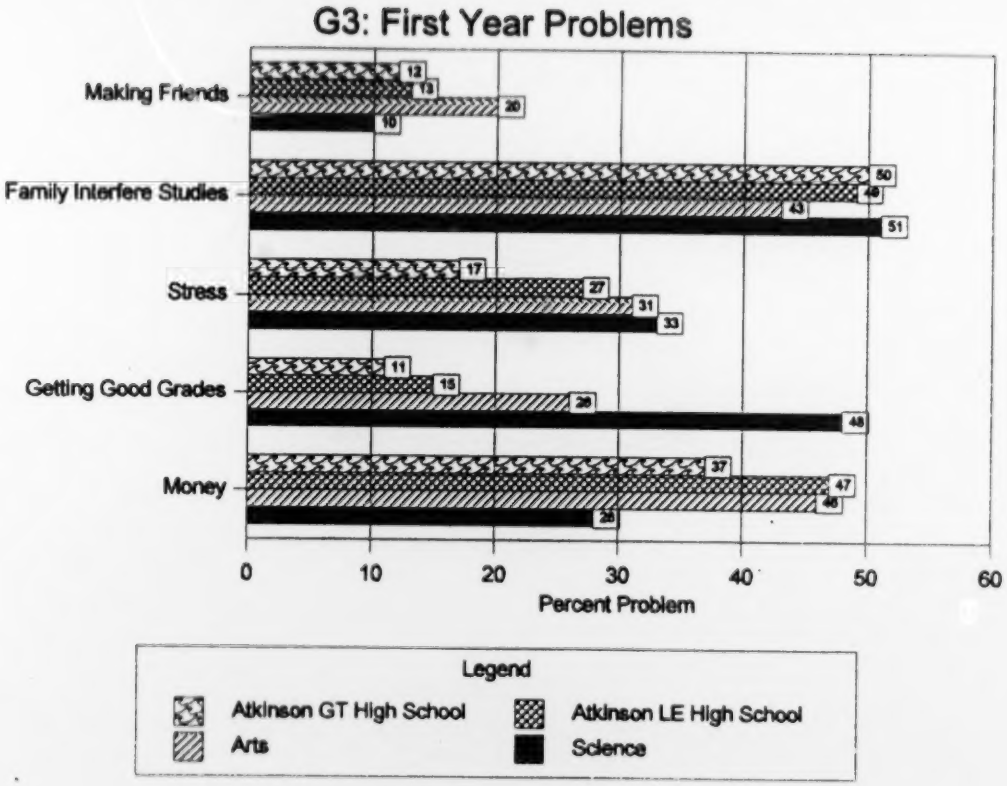
Surprisingly, stress was less of a problem for students in all faculties/colleges than family interference with studies. Also, it is evident that advanced Atkinson students suffered the least in this regard - only 17% had trouble handling stress. Differences in the numbers having problems with stress among Atkinson transitional students, and those in Arts and Science, are relatively small; however, the percentages reporting problems with stress are higher than for advanced Atkinson students.

GETTING GOOD GRADES

Getting good grades is a greater problem for Science students than for any others. Whereas 48% of Science students indicated that they had problems in this regard, the figures for advanced Atkinson students, Atkinson transitional students, and Arts students are 11%, 15%, and 26% respectively. Again it can be postulated that the low figure for advanced Atkinson students is a function of prior exposure to post-secondary education.

MONEY

Almost half of the students in Arts and Atkinson transitional students stated that they had money problems over the year. The percentage of advanced Atkinson students who had a similar problem was lower at 37%. Least problems with money were reported by students in Science,



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only 28% of whom indicated that money had been a concern.

OVERALL

First, data in Graph 3 indicate that family interference with studies was the most frequent problem reported by students. However, caution should be exercised when interpreting this finding. Graph data do not indicate how intense each of the problems was. Second, as in the previous section on the degree to which students had been prepared for university, considerable differences exist from one faculty/college to the next with respect to the types of problems encountered by students.

An average problem score as portrayed in Graph 4 was constructed in the same way, and has the same limitations, as the preparation score described earlier. Overall, from the data in the graph it is evident that Arts, Science, and transitional Atkinson students have similar problem levels. The problem level of advanced Atkinson students is slightly lower.

To a large degree, the distribution in Graph 4 parallels findings of students in surveys conducted at the beginning of first year in which they were asked what problems they anticipated in the up-coming year (Grayson, 1993). More specifically, Science and Arts students anticipated more problems than Atkinson students. Findings such as these may indicate that in September students are fairly realistic regarding the types of problems they are likely to encounter over the first year.

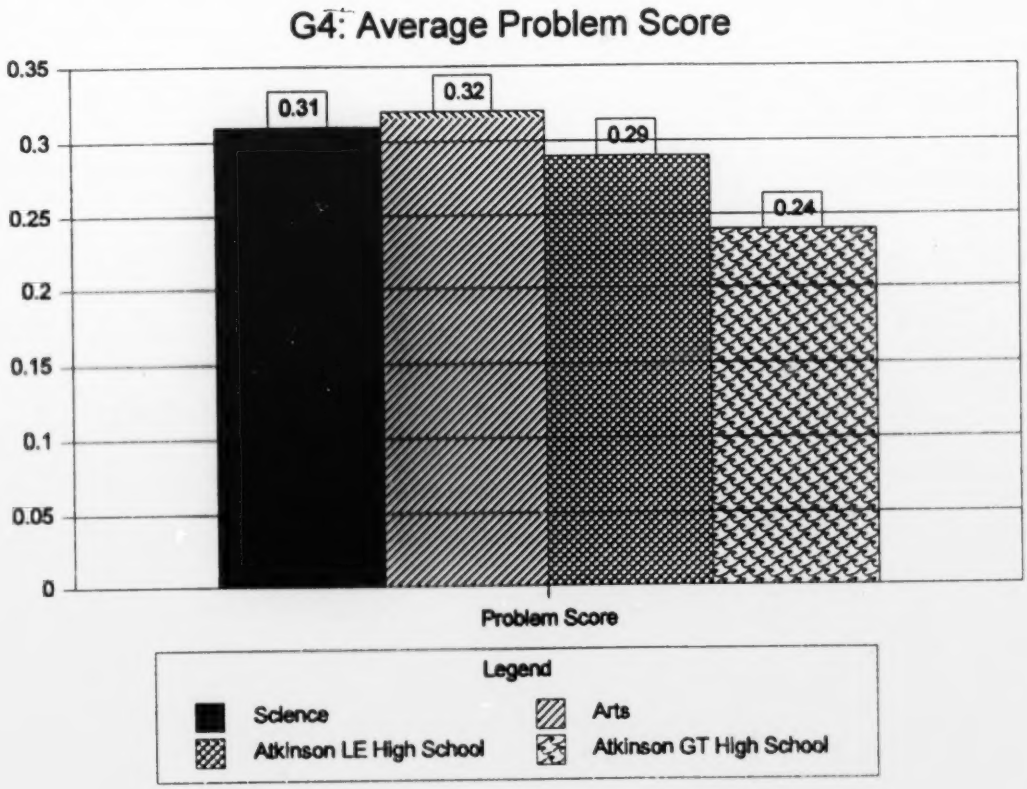
Model Related Data

As stated earlier, in analyses in which the impacts on desired outcomes of: faculty, teaching assistant lab demonstrator, and staff contacts; academic and social involvement; and classroom experiences, have been examined, it has been found that the greatest impact has resulted from positive classroom experiences. The situation in each of the faculties/colleges for first year students for these variables is documented in Graphs 5 to 9.

Contacts

STAFF

According to Graph 5, Atkinson transitional students had the greatest number of out-of-class contacts with staff over the previous two months - 2.1. With 1.9 and 1.8 contacts, Arts and Science students respectively are close behind. The fewest contacts are had by advanced Atkinson students.


G4: Average Problem Score
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0.31
0.32
0.29
0.24
Problem Score
Legend
Science
Arts
Atkinson LE High School
Atkinson GT High School

On average, Atkinson students only take approximately 33% of the course load of Arts and Science students. As a result, if Atkinson figures are pro-rated on a course by course basis (i.e. multiplied by 3) it can be deduced that Atkinson students have far more contacts with staff than either Arts or Science students. The comparative figures for a course load equivalent to that of Arts and Science students for Atkinson transitional students would be 6.3; for advanced Atkinson students, 3.9.

TA/Demonstrator Contacts

Differences along this dimension are considerable. While Arts students reported 2.1 out-of-class contacts of ten minutes or more over the previous two months, Science students had only 1.1, or approximately 1/2 of the contacts of Arts students. Contacts for Atkinson transitional and advanced Atkinson students are 1.3 and .66 respectively. If Atkinson figures are pro-rated, the number of contacts for Atkinson transitional and advanced Atkinson students would be 3.9 and 2.0 respectively.

Faculty Contacts

The single greatest number of out-of-class faculty contacts of ten or more minutes over the previous two months, 3.4, are had by students enrolled in Arts. The least, 1.9, by students in Science. However, if as in the previous sections it is recognized that on average Atkinson students take only 33% of the course load of Arts or Science students, the greatest amount of faculty contact is by Atkinson students. On average, they would have had the equivalent of 7.5 contacts over the previous two months.

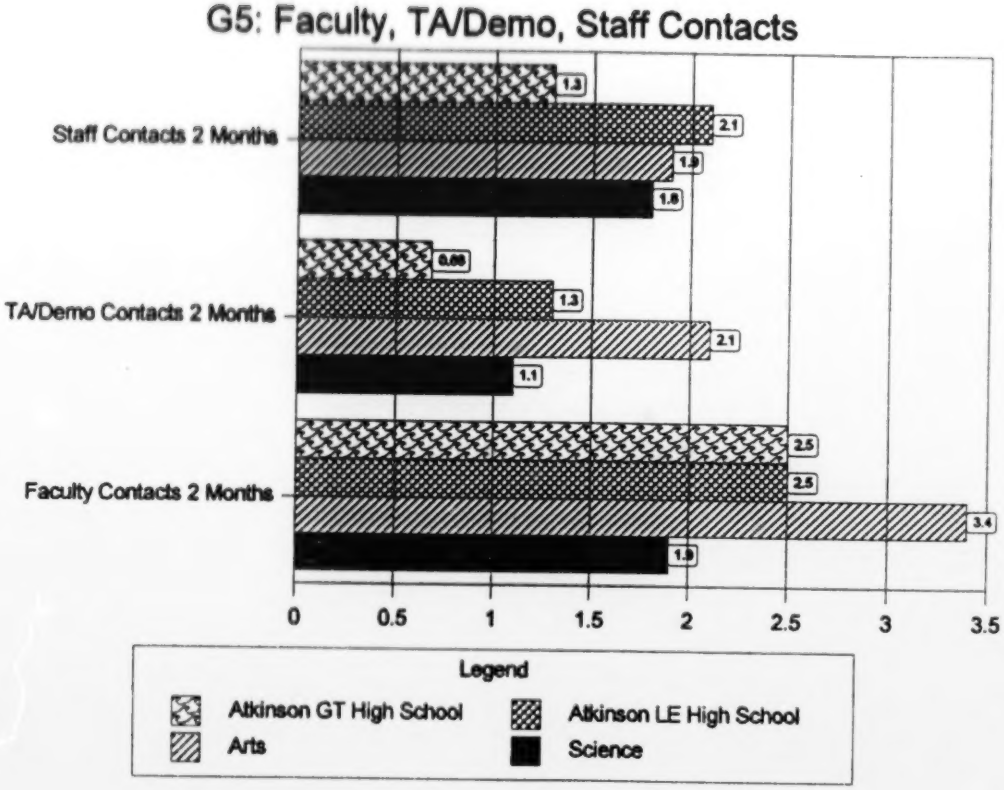
Overall

There are considerable differences in contacts with staff, teaching assistants and lab demonstrators, and faculty between and among faculties/colleges. Overall, the lowest amount of contact is for students in Science. If adjustments are made for the number of courses taken, the greatest contact is for Atkinson students.

Academic Involvement

Hours on Study

Amount of time devoted to studying outside of class is the first item examined in Graph 6. The first thing of note in this regard is that both Arts and Science students devote approximately 28 or 29 hours per week to studying. The figures for both types of Atkinson students are approximately 15. Were they taking the same number of courses as Arts and Science students the figures would jump to 45 hours per week. Obviously, this would not happen and there likely is a threshold above which time devoted to studies outside of class would not increase. The important



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point to note, however, is that Atkinson students spend proportionately more time on studying for their courses than Arts or Science students.

Tutorial Attendance

In Graph 6 the percentage of tutorials and lectures attended has been divided by 10 to facilitate graphing. It is clear that considerable differences exist with respect to this factor. To begin, while Science students report attending 97% of their labs, Arts students go to only 88% of their tutorials. Attendance for Atkinson students is even lower. Atkinson transitional students attend only 61% of their tutorials while advanced Atkinson students go to only 54%.

Lecture Attendance

Attendance at lectures is a different matter. Independent of faculty or college, students report attending lectures approximately 92% of the time (this may seem like a large number to anyone who has ever taught a course!). Differences that do exist are not statistically significant.

Current Courses

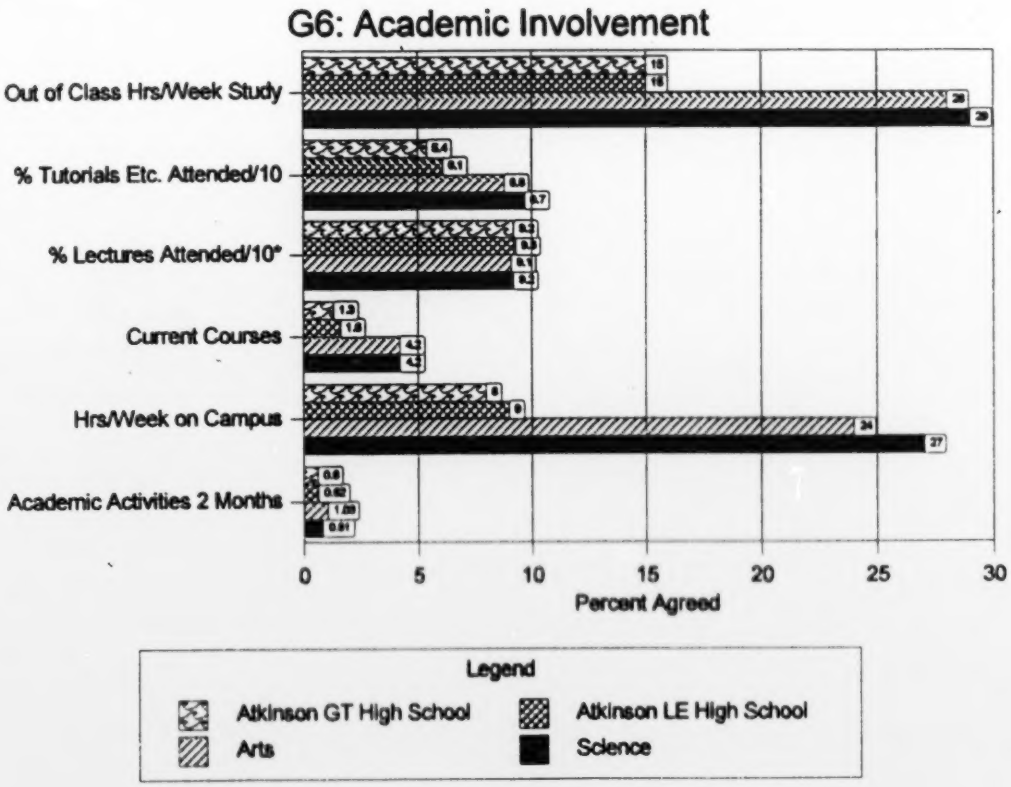
Graph data indicate that there are no differences between Arts and Science students regarding the number of courses in which students are enrolled: the figure is 4.2 for each. Atkinson transitional students are enrolled in 1.6 courses; advanced Atkinson students in 1.3. As Atkinson College is an evening part-time institution, these lower figures are to be expected.

Hours on Campus

On average, Science students spend 27 hours per week on campus. The figure for Arts students is a lower 24 hours. Differences between Atkinson transitional students and advanced Atkinson students are minimal: they spend 9 and 8 hours respectively on campus. Applying the same logic as in earlier sections, if the course load of Atkinson students was the same as those in Arts and Science, the on-campus hours of Atkinson students would be approximately 27 per week.

Academic Activities

Graph data indicate that in general very few students participate in non-required academic activities such as talks, presentations, and so on. On average, Arts students participated in 1.3 such activities in the two months prior to the survey; Science students in only .81. The figures for Atkinson transitional and advanced Atkinson students are .62 and .60 respectively. On the pro-rated basis employed elsewhere, however, Atkinson rates would be 1.9 and 1.8. In other words, on a course by course basis, Atkinson students engage in more non-required academic activities than either Arts or Science students.


G6: Academic Involvement
Out of Class Hrs/Week Study
% Tutorials Etc. Attended/10
% Lectures Attended/10*
Current Courses
Hrs/Week on Campus
Academic Activities 2 Months
0
5
10
15
20
25
30
Percent Agreed
Legend
Atkinson GT High School
Atkinson LE High School
Arts
Science

Overall

With the exception of attendance at lectures, there are considerable differences among/between students at various faculties/colleges with regard to academic involvement. On a number of dimensions, in keeping with their part-time status, the involvement of Atkinson students is lower than for students in Arts and Science. If involvement rates are pro-rated on a course basis, however, in many instances Atkinson involvement is higher than that of Arts and Science students.

Social Involvement

New Friends

In Graph 7, to facilitate graphing, the number of new friends made over the course of the first year and the hours per week spent with such friends have been divided by 10. To begin with the former, students in Arts and Science, on average, made similar numbers of new friends - 14 and 15 respectively. Atkinson transitional students made 5 new friends while advanced Atkinson students made 4. When the new friends made by Atkinson students are pro-rated in terms of the number of courses being taken (i.e. multiplied by 3), it can be concluded that students in all three parts of the university made approximately the same number of new friends.

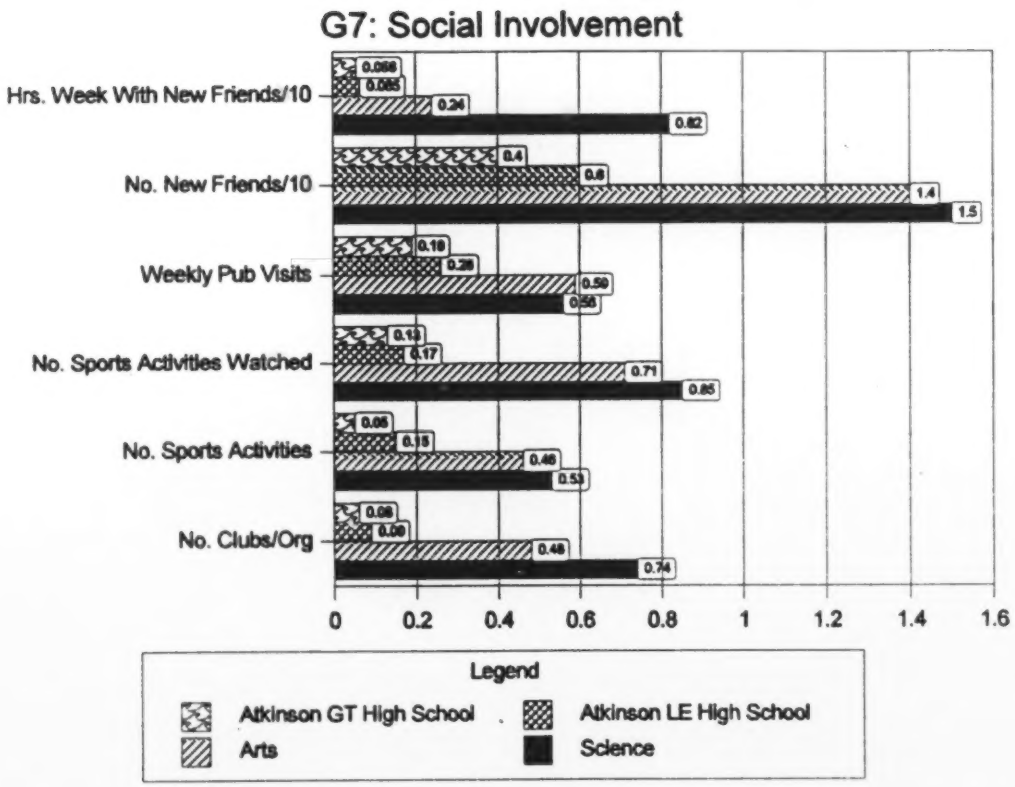
Time With New Friends

Although Arts and Science students made approximately the same number of new friends, Science students spent approximately 8.2 hours with their new acquaintances while the corresponding figure for Arts students was only 2.4 hours. This considerable difference may be explained in part by the fact that Science students spend a considerable amount of time in labs and take a number of compulsory courses in common. While such requirements may be a burden for some, they may also increase the opportunities for interaction.

By way of contrast to students in both Arts and Science, Atkinson students spend only approximately half an hour per week with newly made friends. Even if this figure is pro-rated in terms of the number of courses taken, the total interaction time with new friends increases to only 1.5 hours per week. The relatively low level of interaction for Atkinson students likely can in part be explained by the fact that only one course can be taken per evening. As a result, while there are varying amounts of time to socialize in breaks (all classes are three hours long), there is no time between classes to fraternize.

Pub Visits

On average, Arts and Science students make similar numbers of weekly visits to campus pubs - .59 and .56 respectively. The figure for Atkinson transitional students is .26; for advanced


G7: Social Involvement
Hrs. Week With New Friends/10
No. New Friends/10
Weekly Pub Visits
No. Sports Activities Watched
No. Sports Activities
No. Clubs/Org
0.068
0.085
0.24
0.82
0.4
0.8
1.4
1.5
0.18
0.28
0.59
0.56
0.13
0.17
0.71
0.85
0.08
0.16
0.46
0.53
0.08
0.09
0.48
0.74
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
Legend
Atkinson GT High School
Atkinson LE High School
Arts
Science

Atkinson students, .19. Curiously, although even on a pro-rated basis Atkinson students spent less time with new friends than Arts or Science students, pro-rated pub visits are higher than for Arts and Science students: the figure for Atkinson transitional students is .78; for advanced Atkinson students, .57. Of course it is possible that it is in campus pubs either before or after class that Atkinson students carry out a relatively large portion of their fraternization.

Sports Watched

Over the course of the first year, on average, Science students watched .85 sports events. The corresponding number for Arts students is .71. While Atkinson transitional students watched .17, advanced Atkinson students watched only .13 events. Even when pro-rated, the figure for the first group of Atkinson students is only .51; for the latter, .39. In essence, Atkinson rates on this dimension are considerably below those of Arts and Science (themselves quite low given that the figures pertain to all of first year).

Sports Activities

The number of sports activities participated in are lower than those watched. Arts and Science students participated in roughly similar numbers of sports - .48 and .53 respectively - while the participation rates for Atkinson students were also low - .15 and .05 for transitional and advanced respectively. While the pro-rated number for Atkinson transitional is .45 (suggesting a similar participation to Arts students), the rate for advanced is only .15. Clearly sports are not a big item with advanced Atkinson students.

Clubs and Organizations

Science students participate in clubs and organizations to a far greater extent than Arts students - the respective figures are .74 and .43. Rates for Atkinson transitional and advanced Atkinson students are very low - .09 and .06 respectively. Even when pro-rated, the number of clubs and organizations that Atkinson students participate in are low.

Overall

In general, the social involvement of students on most dimensions identified in Graph 7 is higher for Science than for Arts students. In addition, for some informal pro-rated measures of social involvement, such as the number of new friends and weekly pub visits, figures for Atkinson students are comparable to those of particularly Arts students. For more organized activities, such as watching and/or participating in sports and participation in clubs and organizations, Atkinson participation is low. In essence, Atkinson students appear to be less socially involved than Arts and Science students even when pro rating is carried out.

THE GENERAL PICTURE

In order to gain a more comprehensive picture of the amount of absolute (not pro-rated) out-of-class contact with faculty, TAs and demonstrators, and staff (i.e. individuals with the potential to provide support to students); academic involvement; and social involvement, separate z-scores were calculated for each of the variables described in Graphs 5, 6, and 7. First, z-scores were calculated for each of the variables in Graphs 5, 6, and 7. Second, mean z-scores were calculated for all of the variables in each group. For example, the z-score for contacts was calculated by averaging the z-scores for contacts with faculty, contacts with TAs/demonstrators, and contacts with staff. Z-scores have a high value of 3 and a low value of -3. For purposes of the data in Graph 8, the higher the z-score the better.

To begin with contacts with institutional representatives, it is evident from the graph that Arts students have the greatest contact and advanced Atkinson students the least.[3] Before jumping to conclusions, however, it is important to remember that in general Atkinson students take 1/3 of the course load of Arts and Science students. As a result, it is to be expected that their level of non-pro-rated contact, as well as academic and social involvement, would be low when examined in this fashion. It is all the more surprising, therefore, that the rate of contact of Atkinson transitional students is higher than average and higher than that of Science students! The relatively high rate of contact for this group may assist in the transition to the university of a group of students with no prior post-secondary exposure. Those with some post-secondary education may not need a similar amount of contact in first year. In other words, at Atkinson, those who need the contact may be getting it. Whether or not the amount of contact is sufficient is another matter that cannot be answered here. By way of comparison, it may be that students in Science simply are not getting the type of contact that would assist in the first year transition. Certainly this is the message that has been conveyed in focus groups carried out with Science students.

When it comes to academic involvement, the situation is different. As expected, given the measure used, Atkinson students score low on this dimension. It was somewhat surprising, however, to find that Science students were slightly more academically involved than Arts students.[4]

The situation with regard to social involvement is even more interesting. Once again, as expected, Atkinson students score low. What was not expected was that Science students score far higher than Arts students on social involvement.[5]

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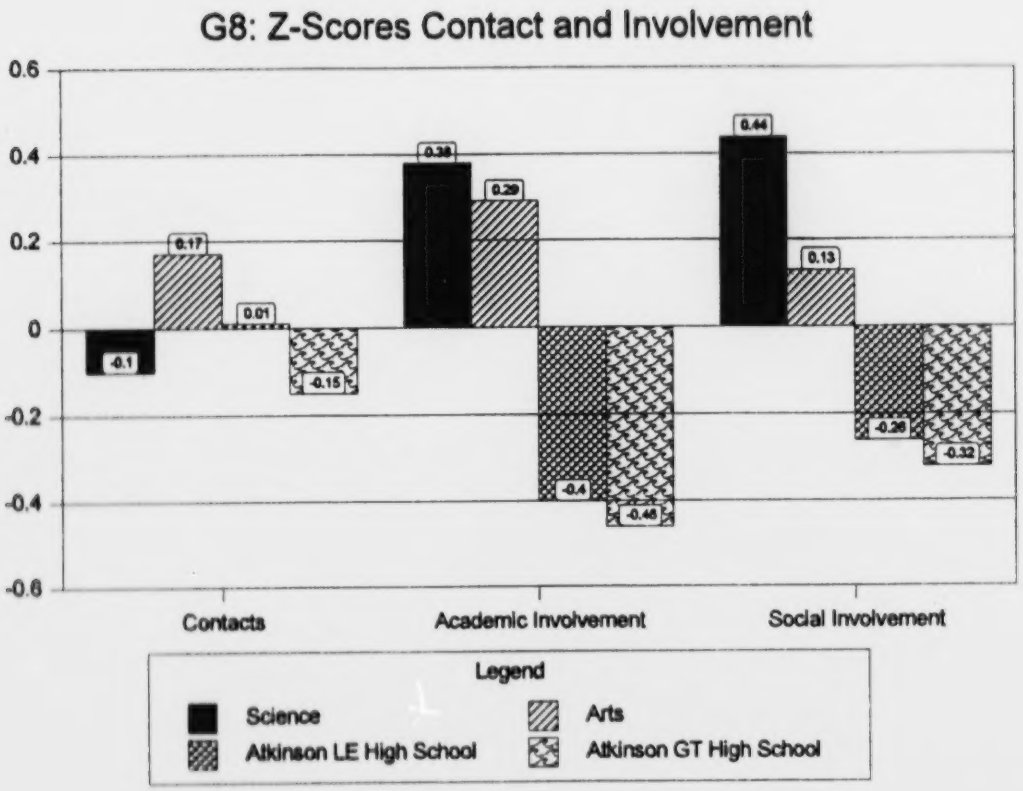
[3] For perspective, the difference between Arts and Science students is the equivalent of 11 percentile points.

[4] The difference between Arts and Science students is the equivalent of 4 percentile points.

[5] The equivalent of a 13 percentile point gap separates Arts from Science students.



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Overall

The general picture that emerges from Graph 8 is this. As expected, given the measure used, Atkinson students score low on academic and social involvement. It was not expected that Atkinson transitional students would have greater absolute contact than Science students who on average take three times as many courses. Conversely, it was not expected that the academic involvement of Science students would be higher than that of Arts students and that Science students' social involvement would be far higher.

It can be argued that outside of the classroom, through formal and informal mechanisms, first year students in Science are slightly more involved in the university's many processes than Arts students (this still does not necessarily mean that the degree of involvement is large; comparative studies with other universities would have to be conducted before comments could be made on this issue). Unfortunately, as a result of the relative lack of contact of Science students with institutional representatives - faculty, lab demonstrators, staff - it may be that the potential positive effects of higher involvement on desired outcomes are not realized. Clearly, mechanisms should be put in place that would increase contact for Science students and increase the amount of social and academic involvement for Arts students.

Classroom Experiences

Perspectives

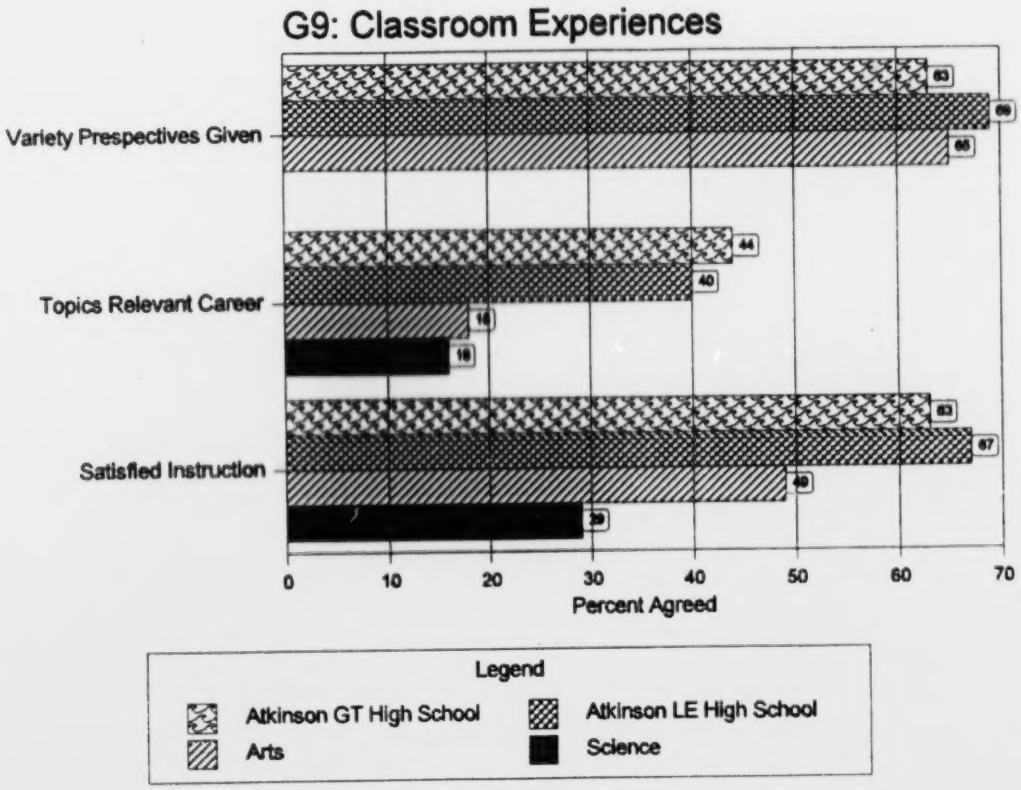
Information on classroom experiences is outlined in Graph 9. While a question on the degree to which various perspectives were included in courses was not asked of first year Science students, it was asked of Arts and Atkinson students. The graph shows that 69% of Atkinson transitional students agreed that a sufficient variety of perspectives had been presented in their classes. The figures for advanced Atkinson students and students in Arts are 63% and 65% respectively. While differences are statistically significant, absolute differences are small. Moreover, a clear majority believe that courses presented a variety of perspectives. Whether or not this majority is large enough is a different matter.

Relevant Topics

Graph data indicate that overall a minority believed that topics covered in classes were relevant to career success. The data also indicate that far more Atkinson students (approximately 43% overall) than students in Arts and Science (about 17%) felt that topics were of relevance to future careers.

Satisfaction Instruction

Clearly, Atkinson students are more satisfied with the quality of their instruction than



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either Arts or Science students. In total, 67% of Atkinson transitional and 63% of advanced Atkinson students expressed satisfaction in this regard. Whereas 49% of Arts students said that they were satisfied with instruction, only 29% of Science students made a similar claim.

Overall

The importance of each of the foregoing stems from the fact that each has been found to have positive implications for a number of desired outcomes of the first year experience. Overall it is fair to say that the classroom experience has been most positive for Atkinson, Arts, and Science students, in that order.

First Year Outcomes

GPA

To facilitate graphing, first year grade point averages have been multiplied by 10. From Graph 10 it can be seen that the highest first year GPAs, 6.02, were achieved by advanced students in Atkinson. As many of these already possess B.A.s and community college degrees this finding is understandable. The GPAs of transitional Atkinson students, 5.35, are similar to those of first year Arts students who averaged 5.53. The lowest GPAs, 5.03, were earned by students in Science.

Return to York

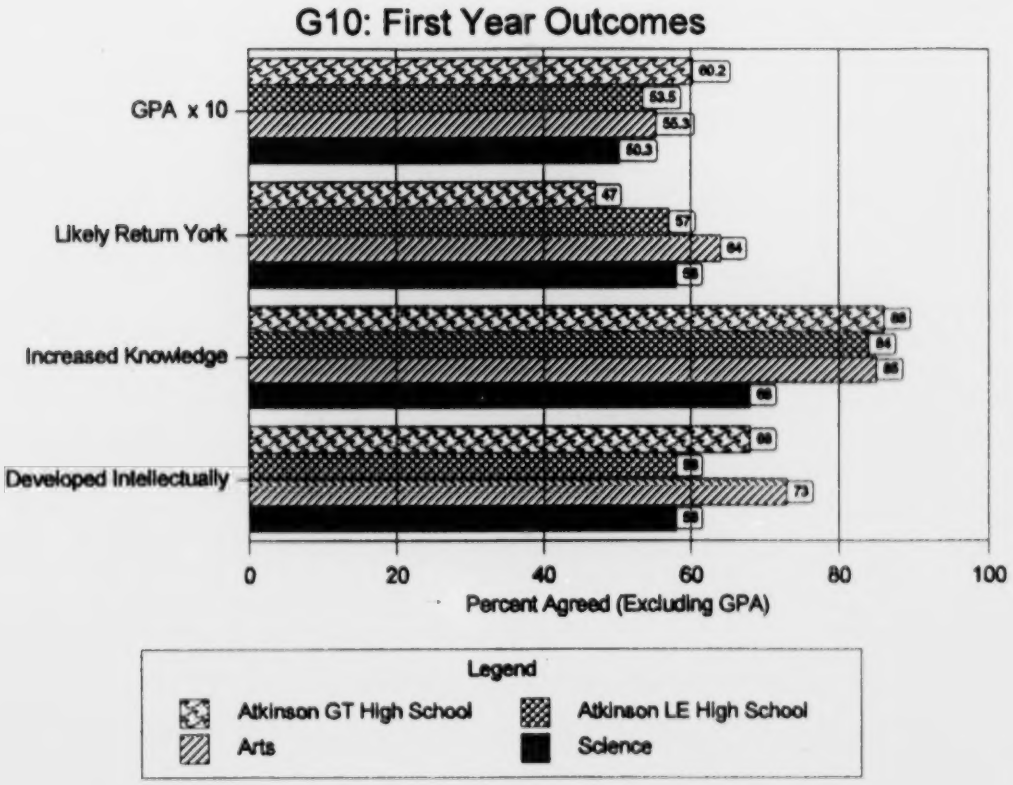
More Arts students than any others, 64%, stated that they were extremely likely to return to York the following year. The next most likely to return were Science and Atkinson transitional students, 58% and 57% of whom said that they would return to York. Among advanced Atkinson students, only 47% were likely to come back for more courses.

Increase in Knowledge

Independent of marks, the vast majority of Atkinson and Arts students (approximately 85%) agreed that their knowledge of specific subject matters had increased over the first year. A somewhat smaller number of Science students, 66%, made a similar claim.

Developed Intellectually

Among Arts students, 73% agreed that they had developed intellectually over the previous year. A slightly smaller number of advanced Atkinson students, 68%, also agreed that they had developed intellectually. Atkinson transitional students and those from Science - 58% in each case - were the least likely to agree that they had developed intellectually as a result of the first


G10: First Year Outcomes
GPA x 10
Likely Return York
Increased Knowledge
Developed Intellectually
60.2
53.5
56.3
50.3
47
57
64
69
88
84
85
68
68
69
73
69
0
20
40
60
80
100
Percent Agreed (Excluding GPA)
Legend
Atkinson GT High School
Atkinson LE High School
Arts
Science

year experience.

Overall

While there are some fluctuations from one outcome to the next, the most consistent finding to emerge from the data in Graph 10 is that the standing of Science students on three of four outcomes was lower than for other students. On the fourth outcome students in Science tied for last position.

First Year Evaluations

As seen from previous sections, the first year experience at York varies considerably by faculty/college. Assessments of various aspects of that experience are provided in Graph 11.

Overall Program

The greatest satisfaction with their overall program of studies was expressed by Atkinson transitional students, 74% of whom expressed satisfaction. Seventy one percent of advanced Atkinson students were also satisfied with their program. While 66% of Arts students were satisfied with their overall program, only 56% of Science students expressed satisfaction.

Grades

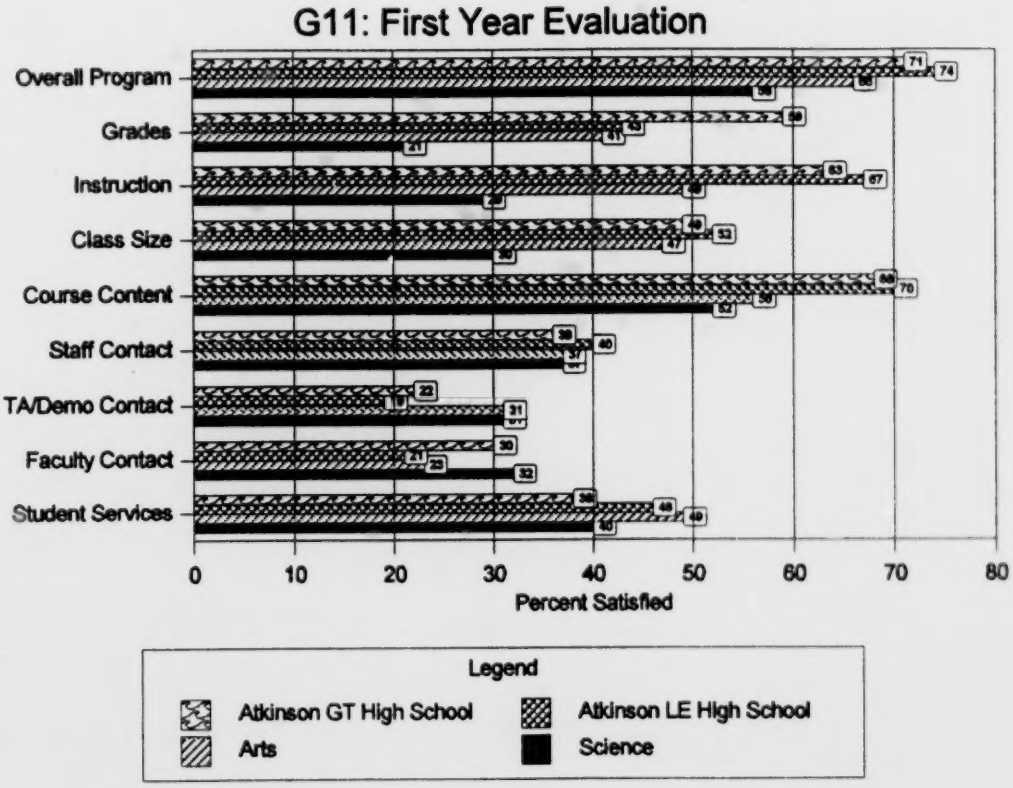
Fifty nine percent of advanced Atkinson students expressed satisfaction with their first year grades (it should be recalled that this group also had the highest GPA). With respective figures of 43% and 41% transitional Atkinson and Arts students were next in order of satisfaction with grades. By way of comparison, only 21% of Science students stated that they were satisfied with their first year standing.

Instruction

Satisfaction with instruction was discussed in the section on classroom experiences. It is included in Graph 11 so that comparisons can be made by the reader with satisfaction for other aspects of the first year experience.

Class Size

Transitional Atkinson students expressed the highest degree of satisfaction with class size - 52%. Advanced Atkinson and Arts students were close behind with 49% and 47% saying that they were satisfied with class size in first year. Only 30% of Science students were satisfied with the size of their first year classes.


G11: First Year Evaluation
Overall Program
Grades
Instruction
Class Size
Course Content
Staff Contact
TA/Demo Contact
Faculty Contact
Student Services
0
10
20
30
40
50
60
70
80
Percent Satisfied
Legend
Atkinson GT High School
Atkinson LE High School
Arts
Science

Course Content

Of all groups, transitional Atkinson students expressed most satisfaction, 70%, with course content. Advanced Atkinson students were close behind with 68% expressing satisfaction. Fifty six percent of Arts students, and 52% of those in Science, were satisfied with the content of first year courses.

Staff Contact

Although differences among faculties/colleges for this dimension are statistically significant, there is little absolute difference in satisfaction with staff contact. Overall, approximately 38% of students were satisfied with their contacts with staff.

TA/Demonstrator Contact

It may be recalled from Graph 3 that Arts students had the greatest amount of contact with TAs/demonstrators. By way of comparison, the contact of Science students was relatively low. Nonetheless, data in Graph 11 indicate that equal number of Arts and Science students, 31%, are satisfied with contacts in this area. By way of comparison, only 22% and 19% respectively of advanced Atkinson and transitional Atkinson students are satisfied with their degree of contact.

Faculty Contact

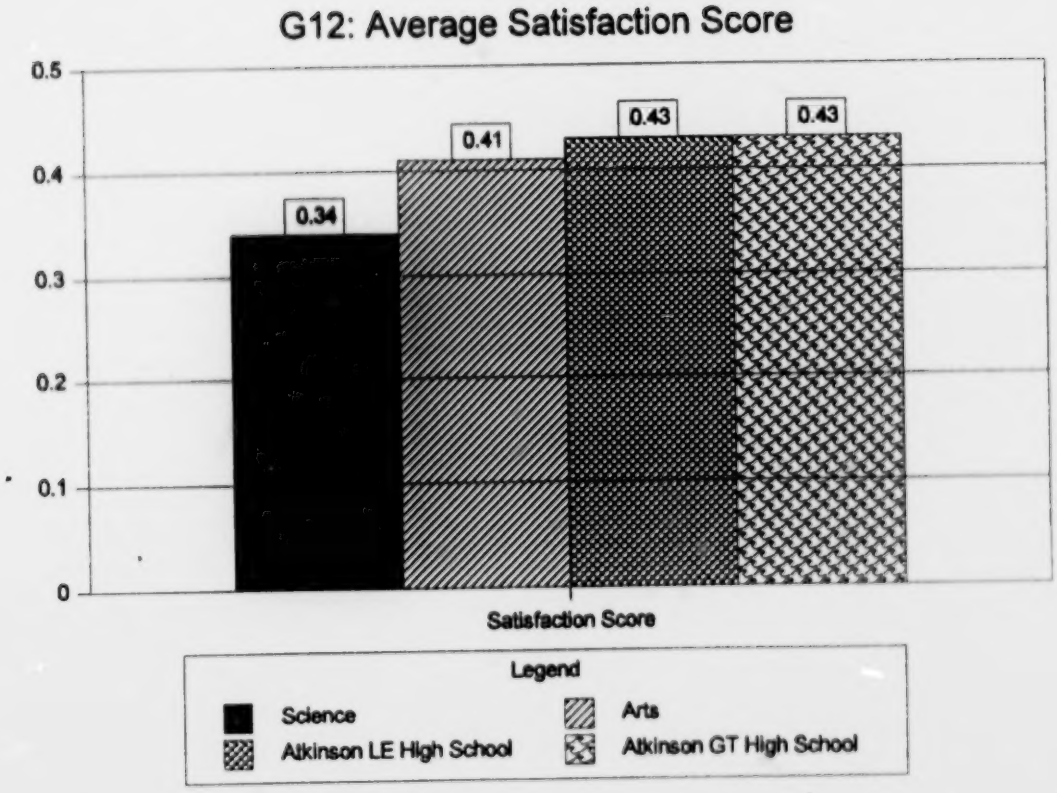
It was also shown in Graph 3 that Science students, by a considerable margin, had the least contact with faculty members outside of class. Nonetheless, as shown in Graph 11, Science students, 32%, expressed the greatest amount of satisfaction with the number of out-of-class faculty contacts. Second in this regard were advanced Atkinson students, 30% of whom expressed satisfaction. The level of satisfaction for Arts and transitional Atkinson students were 23% and 21% respectively.

Student Services

When asked to comment on student services, at the high end, 49% of Arts and 46% of transitional Atkinson students voiced satisfaction. The satisfaction levels of Science and advanced Atkinson students, 40% and 38% respectively, were comparable to one another.

Overall

An overall score of satisfaction as portrayed in Graph 12 was constructed in the same way as earlier scores for preparation and problems. The clearest observation to emerge from the graph is that the overall satisfaction scores of Atkinson and Arts students are similar. By way of comparison, the score for Science students is somewhat lower.


G12: Average Satisfaction Score
0.5
0.4
0.3
0.2
0.1
0
0.34
0.41
0.43
0.43
Satisfaction Score
Legend
Science
Arts
Atkinson LE High School
Atkinson GT High School

Discussion and Conclusion

As noted in the introduction, the objective of this report was to compare the first year experiences of students in the Faculty of Pure and Applied Science, the Faculty of Arts, and Atkinson College. In this connection the foregoing analysis has demonstrated that to a degree the first year experiences of Arts, Atkinson, and Science students differ. For example, Science students have relatively low contact with faculty etc. but are more academically and socially involved than Arts and Atkinson students. Moreover, first year outcomes differ. By way of illustration, Arts and Atkinson students are more likely than Science students to say that their knowledge over the first year of university has increased.

Throughout the text more attention has been devoted to comparisons such as the foregoing than to the absolute nature of various experiences. For example, is the first year level of satisfaction with instruction what can be expected in a commuter university or is York lagging in this area? We will not know until similar research is carried out in comparable institutions.

In the interim there are steps that can be taken to enhance the first year experience at York. Such steps, as noted in the introduction, should include measures that would replicate, as much as possible, some of the desired processes that may be taken as a matter of course in some residential institutions: maximizing student-faculty contact and academic and social involvement. Simultaneously, because its importance to desirable outcomes has already been established at York, we should be taking action to enhance further the classroom experience.

It is beyond the scope of this report to analyze in detail means by which these objectives might be realized. Nonetheless, it is worth noting the responses when students were asked their views on a course specifically designed to assist in dealing with academic and social difficulties often associated with the transition to first year. More concretely, students were asked: "Do you think it would be a good use of time or a waste of time if Arts/Atkinson/Science had a compulsory, first year credit course that would cover subjects such as: university standards, criteria, and procedures; effective studying; time management; improving writing; stress management; and jobs related to various disciplines?" In reply, 53% of Science students, 58% of those in Arts, 60% of transitional Atkinson students, and 51% of advanced Atkinson students, said that it would be a good, or a very good, use of time. Answers to this question confirm that first year students recognize that they have difficulties not currently covered by the formal curriculum and that they need help in dealing with such matters.

The type of course referenced in the question is common in universities south of the border and in some Canadian universities (University of Prince Edward Island and University of Victoria, for example) and likely would go a considerable distance in dealing with some of the concerns raised earlier in this report. (In part in response to earlier examinations of the Faculty of Pure and Applied Science, efforts are underway to provide students with the option of a variant of

such a course in 1995-96.) The way in which such a course could meet its objectives would be through dealing with concrete problems faced by students - e.g. time management skills, essay writing skills. Simultaneously, the course could be designed in a way to increase student-faculty contact and to enhance academic and social involvement (e.g. going to informal academic activities, participating in campus events, and then writing about the experience, could be part of the course). While the offering of such a course is unlikely to be a panacea, if offered properly, it could be a step in the right direction of dealing with some of the first year problems of a commuter campus.

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